

Tooele Army Depot
Tooele
Tooele County
Utah

HAER No. UT-34

HAER
UTAH,
23-TOO,
3-

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HAER
UTAH,
23-TOO,
3-

HISTORIC AMERICAN ENGINEERING RECORD

Tooele Army Depot

UT-34

Location: In Tooele County, Utah, directly west of the town of Tooele, about thirty-five miles southwest of Salt Lake City.

Date of Construction: Established in 1942.

Owner: Department of the Army

Significance: Tooele Army Depot was originally established during World War II to store vehicles, small arms and fire control equipment, and to overhaul and modify tanks and tracked vehicles. Currently it serves as the most important chemical storage depot in the United States.

Historical Report
Prepared by:

David G. Buchanan and John P. Johnson, 1984.

Prepared for
Transmittal by:

Robie S. Lange, HABS/HAER, 1985.

EXECUTIVE SUMMARY

Tooele Army Depot, part of the U.S. Army Depot System Command (DESCOM), is an important ammunition and commodity, storage and supply facility. The depot is located near the town of Tooele, Utah (35 miles southwest of Salt Lake City) on 24,732 acres of land. The installation has 1,459 buildings, mostly ammunition storage igloos or supply warehouses. The majority of these buildings were constructed during either World War II or the Korean War. Two subinstallations are included in this report: the Tooele South Area, located about twenty miles south of Tooele, and the Non-Tactical Generator and Rail Shops Division, located in Ogden, Utah. The Tooele South Area, situated on 19,364 acres of land, was originally constructed during World War II and is currently the most important chemical storage depot in the United States. It now has 246 buildings. The Rail Shops Division is located at Hill Air Force Base in Ogden, Utah. The facility, which is operated by Tooele Army Depot, consists of a World War II railroad maintenance shop and ten other minor structures.

There are no Category I, II or III historic properties at Tooele Army Depot, the Tooele South Area or the Rail Shops Division.

CONTENTS

Executive Summary

PREFACE.....	1
1. INTRODUCTION	3
Scope	3
Methodology	4
2. HISTORICAL OVERVIEW	12
Tooele Army Depot.....	12
Tooele South Area	28
Rail Shops Division	33
3. PRESERVATION RECOMMENDATIONS.....	36
Background	36
Category I Historic Properties.....	41
Category II Historic Properties	41
Category III Historic Properties.....	41
BIBLIOGRAPHY	43
Appendix A	A-1

PREFACE

This report presents the results of an historic properties survey of Tooele Army Depot, Utah with subinstallations Tooele South Area and the Non-Tactical Generator and Rail Shops Division. Prepared for the United States Army Materiel Development and Readiness Command (DARCOM), the report is intended to assist the Army in bringing these installations into compliance with the National Historic Preservation Act of 1966 and its amendments, and related federal laws and regulations. To this end, the report focuses on the identification, evaluation, documentation, nomination, and preservation of historic properties at Tooele Army Depot and its subinstallations, Tooele South Area and the Rail Shops Division. Chapter 1 sets forth the survey's scope and methodology; Chapter 2 presents an architectural, historical, and technological overview of the installations and their properties; and Chapter 3 identifies significant properties by Army category and sets forth preservation recommendations. Illustrations and an annotated bibliography supplement the text.

This report is part of a program initiated through a memorandum of agreement between the National Park Service, Department of the Interior, and the U.S. Department of the Army. The program covers 74 DARCOM installations and has two components: 1) a survey of historic properties (districts, buildings, structures, and objects), and 2) the development of archeological overviews. Stanley H. Fried, Chief, Real Estate Branch of Headquarters DARCOM, directed the program for the Army, and Dr. Robert J. Kapsch, Chief of the

Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) directed the program for the National Park Service. Sally Kress Tompkins was program manager, and Robie S. Lange was project manager for the historic properties survey. Technical assistance was provided by Donald C. Jackson.

Building Technology Incorporated acted as primary contractor to HABS/HAER for the historic properties survey. William A. Brenner was BTI's principal-in-charge and Dr. Larry D. Lankton was the chief technical consultant. Major subcontractors were the MacDonald and Mack Partnership and Melvyn Green and Associates. The authors of this report were John P. Johnson and David G. Buchanan.

The complete HABS/HAER documentation for these installations will be included in the HABS/HAER collections at the Library of Congress, Prints and Photographs Division under the designation HAER No. UT-34.

Chapter 1

INTRODUCTION

SCOPE

This report is based on an historic properties survey conducted in 1983 of all Army-owned properties located within the official boundaries of Tooele Army Depot and its subinstallations Tooele South Area and the Rail Shops Division. The survey included the following tasks:

- Completion of documentary research on the history of the installations and their properties, and general research on the history of procurement and supply in World War II.
- Completion of a field inventory of all properties at the installations.
- Preparation of a combined architectural, historical, and technological overview for the installations.
- Evaluation of historic properties and development of recommendations for preservation of these properties.

Also completed as a part of the historic properties survey of the installations, but not included in this report, are HABS/HAER Inventory cards for 48 individual properties. These cards, which constitute HABS/HAER Documentation Level IV, will be provided to the Department of the Army. Archival copies of the cards, with their accompanying photographic negatives, will be transmitted to the HABS/HAER collections at the Library of Congress.

The methodology used to complete these tasks is described in the following section of this report.

METHODOLOGY

1. Documentary Research

Tooele Army Depot was constructed during World War II as a major supply center depot. Documentation on Tooele Army Depot and its subinstallations, Tooele South Area and the Rail Shops Division, was conducted at the Utah State Historical Society in Salt Lake City and the Library of Congress in Washington, D.C. The Utah State Historic Preservation Office was contacted about possible historic properties at these installations, but no historic properties were identified through this source.

Army records used for the field inventory included current Real Property Inventory (RPI) printouts that listed all officially recorded buildings and structures by facility classification and date of construction; the installation's property record cards; base maps and photographs supplied by installation personnel; and installation master planning, archeological, and environmental assessment and related reports and documents. A complete listing of this documentary material may be found in the bibliography.

2. Field Inventory

The field inventory was conducted by Christy Johnson McAvoy, David G. Buchanan and John P. Johnson during a one-week period in March 1983.

Larry Fisher of the Environmental Section of the Facilities Engineer Office at Tooele Army Depot served as the point of contact for the survey team and coordinated all security and photography procedures. Mason Walker, also of the Environmental Section, escorted the survey team at Tooele Army Depot and Tooele South Area. Dallas Smith of the Master Planning Section of the Facilities Engineer Office supplied maps and photographs that were helpful in completing the inventory. Russell Park and Susie Voss of the Public Affairs Office also supplied photographs, as well as copies of the installation newspaper. Marshall "Red" Grode, former Public Affairs Officer, offered information about the history of Tooele Army Depot. Jim Dykman, the Cultural Resource Advisor of the Utah State Historic Preservation Office in Salt Lake City, provided research assistance and directed the survey team to the Utah State Historical Society Library.

Field inventory procedures were based on the HABS/HAER Guidelines for Inventories of Historic Buildings and Engineering and Industrial Structures.¹ All areas and properties were visually surveyed, with the exception of the toxic storage secured areas at Tooele South Area (see Appendix A). Building locations and approximate dates of construction were noted from the installation's property records and field-verified.

Field inventory forms were prepared for, and black and white 35 mm photographs taken of all buildings and structures through 1945 except basic utilitarian structures of no architectural, historical, or technological interest. When groups of similar ("prototypical") buildings were found,

one field form was normally prepared to represent all buildings of that type. Field inventory forms were also completed for representative post-1945 buildings and structures.² Information collected on the field forms was later evaluated, condensed, and transferred to HABS/HAER Inventory cards.

3. Historic Overview

A combined architectural, historical, and technological overview was prepared from information developed from the documentary research and the field inventory. It was written in two parts: 1) an introductory description of the installation, and 2) a history of the installation by periods of development, beginning with pre-military land uses. Maps and photographs were selected to supplement the text as appropriate.

The objectives of the overview were to 1) establish the periods of major construction at the installation, 2) identify important events and individuals associated with specific historic properties, 3) describe patterns and locations of historic property types, and 4) analyze specific building and industrial technologies employed at the installation.

4. Property Evaluation and Preservation Measures

Based on information developed in the historical overviews, properties were first evaluated for historical significance in accordance with the eligibility criteria for nomination to the National Register of Historic Places. These criteria require that eligible properties possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that they meet one or more of the following:³

/6

- A. Are associated with events that have made a significant contribution to the broad patterns of our history.
- B. Are associated with the lives of persons significant in the nation's past.
- C. Embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction.
- D. Have yielded, or may be likely to yield, information important in pre-history or history.

Properties thus evaluated were further assessed for placement in one of five Army historic property categories as described in Army Regulation 420-40:⁴

Category I	Properties of major importance
Category II	Properties of importance
Category III	Properties of minor importance
Category IV	Properties of little or no importance
Category V	Properties detrimental to the significance of of adjacent historic properties

Based on an extensive review of the architectural, historical, and technological resources identified on DARCOM installations nationwide, four criteria were developed to help determine the appropriate categorization

level for each Army property. These criteria were used to assess the importance not only of properties of traditional historical interest, but of the vast number of standardized or prototypical buildings, structures, and production processes that were built and put into service during World War II, as well as of properties associated with many post-war technological achievements. The four criteria were often used in combination and are as follows:

- 1) Degree of importance as a work of architectural, engineering, or industrial design. This criterion took into account the qualitative factors by which design is normally judged: artistic merit, workmanship, appropriate use of materials, and functionality.
- 2) Degree of rarity as a remaining example of a once widely used architectural, engineering, or industrial design or process. This criterion was applied primarily to the many standardized or prototypical DARCOM buildings, structures, or industrial processes. The more widespread or influential the design or process, the greater the importance of the remaining examples of the design or process was considered to be. This criterion was also used for non-military structures such as farmhouses and other once prevalent building types.
- 3) Degree of integrity or completeness. This criterion compared the current condition, appearance, and function of a building, structure, architectural assemblage, or industrial process to its original or

most historically important condition, appearance, and function.

Those properties that were highly intact were generally considered of greater importance than those that were not.

4) Degree of association with an important person, program, or event.

This criterion was used to examine the relationship of a property to a famous personage, wartime project, or similar factor that lent the property special importance.

The majority of DARCOM properties were built just prior to or during World War II, and special attention was given to their evaluation. Those that still remain do not often possess individual importance, but collectively they represent the remnants of a vast construction undertaking whose architectural, historical, and technological importance needed to be assessed before their numbers diminished further. This assessment centered on an extensive review of the military construction of the 1940-1945 period, and its contribution to the history of World War II and the post-war Army landscape.

Because technology has advanced so rapidly since the war, post-World War II properties were also given attention. These properties were evaluated in terms of the nation's more recent accomplishments in weaponry, rocketry, electronics, and related technological and scientific endeavors. Thus the traditional definition of "historic" as a property 50 or more years old was not germane in the assessment of either World War II or post-war DARCOM buildings and structures; rather, the historic importance of all properties was evaluated as completely as possible regardless of age.

Property designations by category are expected to be useful for approximately ten years, after which all categorizations should be reviewed and updated.

Following this categorization procedure, Category I, II, and III historic properties were analyzed in terms of:

- Current structural condition and state of repair. This information was taken from the field inventory forms and photographs, and was often supplemented by rechecking with facilities engineering personnel.
- The nature of possible future adverse impacts to the property. This information was gathered from the installation's master planning documents and rechecked with facilities engineering personnel.

Based on the above considerations, the general preservation recommendations presented in Chapter 3 for Category I, II, and III historic properties were developed. Special preservation recommendations were created for individual properties as circumstances required.

5. Report Review

Prior to being completed in final form, this report was subjected to an in-house review by Building Technology Incorporated. It was then sent in draft to the subject installation for comment and clearance and, with its associated historical materials, to HABS/HAER staff for technical review. When the installation cleared the report, additional draft copies

were sent to DARCOM, the appropriate State Historic Preservation Officer, and, when requested, to the archeological contractor performing parallel work at the installation. The report was revised based on all comments collected, then published in final form.

NOTES

1. Historic American Buildings Survey/Historic American Engineering Record, National Park Service, Guidelines for Inventories of Historic Buildings and Engineering and Industrial Structures (unpublished draft, 1982).
2. Representative post-World War II buildings and structures were defined as properties that were: (a) "representative" by virtue of construction type, architectural type, function, or a combination of these, (b) of obvious Category I, II, or III historic importance, or (c) prominent on the installation by virtue of size, location, or other distinctive feature.
3. National Park Service, How to Complete National Register Forms (Washington, D.C.: U.S. Government Printing Office, January 1977)
4. Army Regulation 420-40, Historic Preservation (Headquarters, U.S. Army: Washington, D.C., 15 April 1984)

Chapter 2

HISTORICAL OVERVIEW

TOOELE ARMY DEPOT

BACKGROUND

The Tooele Army Depot, part of the U.S. Army Depot System Command (DESCOM), occupies 24,732 acres near the town of Tooele, Utah, about 35 miles southwest of Salt Lake City. The depot is currently responsible for supply, storage, and maintenance of general commodities and ammunition and has facilities capable of handling, storing, demilitarizing and processing ammunition. In addition to its supply and storage functions, the depot also repairs, overhauls and maintains automotive and construction equipment, rail equipment, and missile system components. (Illustration 1)

The original mission of the Tooele Ordnance Depot, assigned in December 1942, was to store vehicles, small arms, and fire control equipment, and to overhaul and modify tanks and tracked vehicles. In this capacity, Tooele was designated as a back-up depot for the Stockton Ordnance Depot and Benicia Arsenal, both in California. In July 1943, Tooele was designated as a reserve storage depot for tank and combat vehicle tools and equipment, and in November of the same year, the Tooele Ordnance Depot also became the supply center for materiel required by the Ogden Arsenal, located in nearby Ogden, Utah.¹

In addition to the Ordnance Corps, other military units assigned to the depot during World War II included the Corps of Engineers, which was allocated space in a warehouse for an engineer distribution center; the Signal Corps, which had

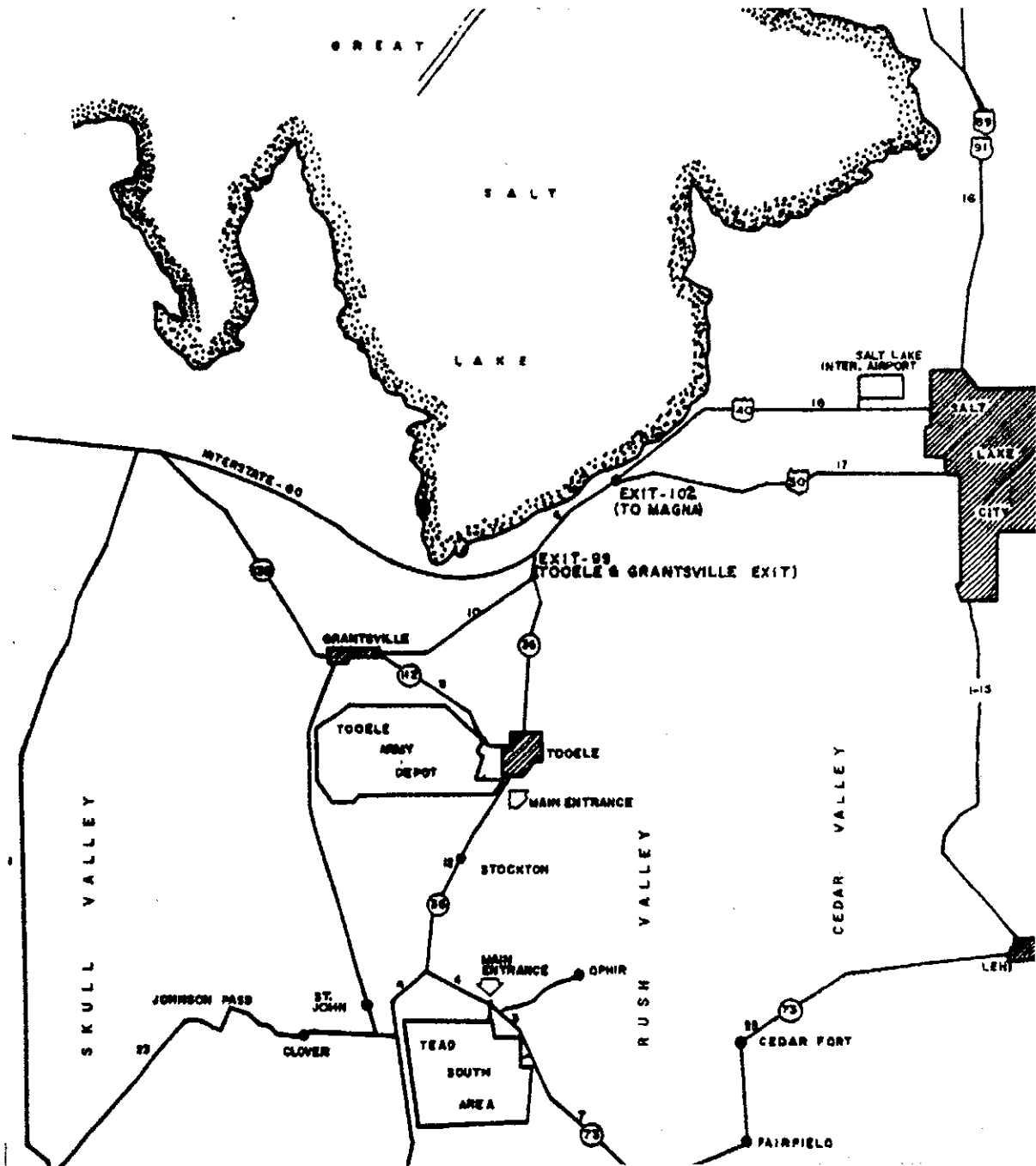


Illustration 1: Tooele Army Depot Vicinity Map. (Source: Facilities Engineer, Tooele Army Depot)

the responsibility of providing communications to the base; and the Air Force, which used the Depot as a site for training ammunition companies.²

During the War, the depot received and shipped a total of 40,946 railroad carloads of ammunition supplies and salvage items, handling more than 1,625,000 tons of materiel. In addition, the depot overhauled or salvaged 997 major auto vehicles, 1,347 major artillery pieces, and 896 tanks.³

After World War II, the depot returned war materiel either to stock or to surplus disposal. Because the market for salvage immediately after the war was flooded, the depot was used chiefly to stockpile supplies.⁴

With American involvement in the Korean War, the depot's major emphasis changed from primarily storage to a manufacturing enterprise devoted to producing, rebuilding, and repairing military equipment. Following the war, the depot added another important activity--the destruction of obsolete bombs and ammunition.⁵

In May 1955, Tooele Ordnance Depot assimilated Deseret Depot Activity (now Tooele South Area) and the functions of the Ogden Arsenal. In 1962, the depot took over distribution of ordnance supplies within the State of Utah, formerly handled by the Pueblo Ordnance Depot, Colorado, and the supply mission for the Sixth U.S. Army to the western states, Alaska and the islands of the Pacific, formerly assigned to Mount Rainer Ordnance Depot, Tacoma, Washington, and Benecia Arsenal, Benecia, California. The machine shop of the Naval Supply Depot at Clearfield, Utah, was also assimilated by the Tooele Ordnance Depot at this time.⁶

With the consolidation of the Army's technical services in August 1962, the name of Tooele Ordnance Depot was changed to Tooele Army Depot. In August 1973, Umatilla Depot Activity in Hermiston, Oregon was placed under the command of Tooele Army Depot. Fort Wingate Depot Activity, Gallup, New Mexico and Navajo Army Depot Activity, Flagstaff, Arizona were assigned to Tooele in September 1975, and Pueblo Depot Activity, Pueblo, Colorado was assigned to Tooele in June 1976.⁷

CONSTRUCTION AND SITE DEVELOPMENT

In 1920, after World War I, the Army established a permanent ammunition depot at Ogden, Utah, north of Salt Lake City. Ogden Arsenal, although regarded as a key center of Army supply in the West, was unable to expand at the outset of World War II because it was immediately surrounded by an airfield, highways, and fertile farms. In 1942, the Army therefore acquired a tract of 25,000 acres four miles south of Tooele, Utah, and 35 miles southwest of Salt Lake City, to serve as the location for a new ammunition depot.

The Army chose the desert site near Tooele for four reasons: first, it was situated far enough inland from the West Coast to be defensible from attack by sea or air; second, the sandy loam soil of the area absorbed shocks - a necessary feature in case of accidental detonation or bombing; third, the site was adjacent to the Great Salt Lake Desert where ammunition, artillery pieces and vehicles in storage would be less vulnerable to rust and corrosion in the dry climate; and finally, the site, which had been formerly used for sheep grazing, was uninhabited and without any existing structures.⁸

In spring 1942, the contract for construction of the Tooele Army Depot was awarded to Inter-Mountain Contractors, a corporation comprised of four contractors: Peter Keiwi Sons of Omaha; Morrison-Knudsen of Boise; Ford J. Twaits of Los Angeles; and Griffith Company also of Los Angeles. This contract called for the construction of warehouse space, storage magazines, igloo storage buildings, and gravel-surfaced, open-air storage space. The bid for the prime construction contract was \$26,724,598.

Groundbreaking for construction was begun in June 1942, but problems due to blowing sands and shifting soils were immediately encountered by construction crews, hampering construction efforts and forcing delays and shutdowns. Despite these and other problems, the contract was completed by January 1943. The problem of shifting soils was not alleviated, however, until later that year when Utah State University personnel planted drought resistant grasses to prevent further erosion.⁹

Between 1942 and 1943, construction at the Depot established three areas: the ammunition storage area, comprising the western portion of the site; the maintenance and storage area, in the northeast corner of the site; and the administrative area, situated in the southeast corner of the installation. (Illustration 2)

The ammunition storage area consisted of 800 concrete arch, earth-covered igloo-type storage magazines, each with a capacity to store 500,000 pounds of ammunition. The storage section covered an area of eight square miles, divided into eight blocks of one square mile each. An ammunition renovation facility and an area of above-ground magazines were also completed in this section of the installation. The primary buildings in the ammunition renovation

Tooele Army Depot
HAER No. 3T-34
Page 20

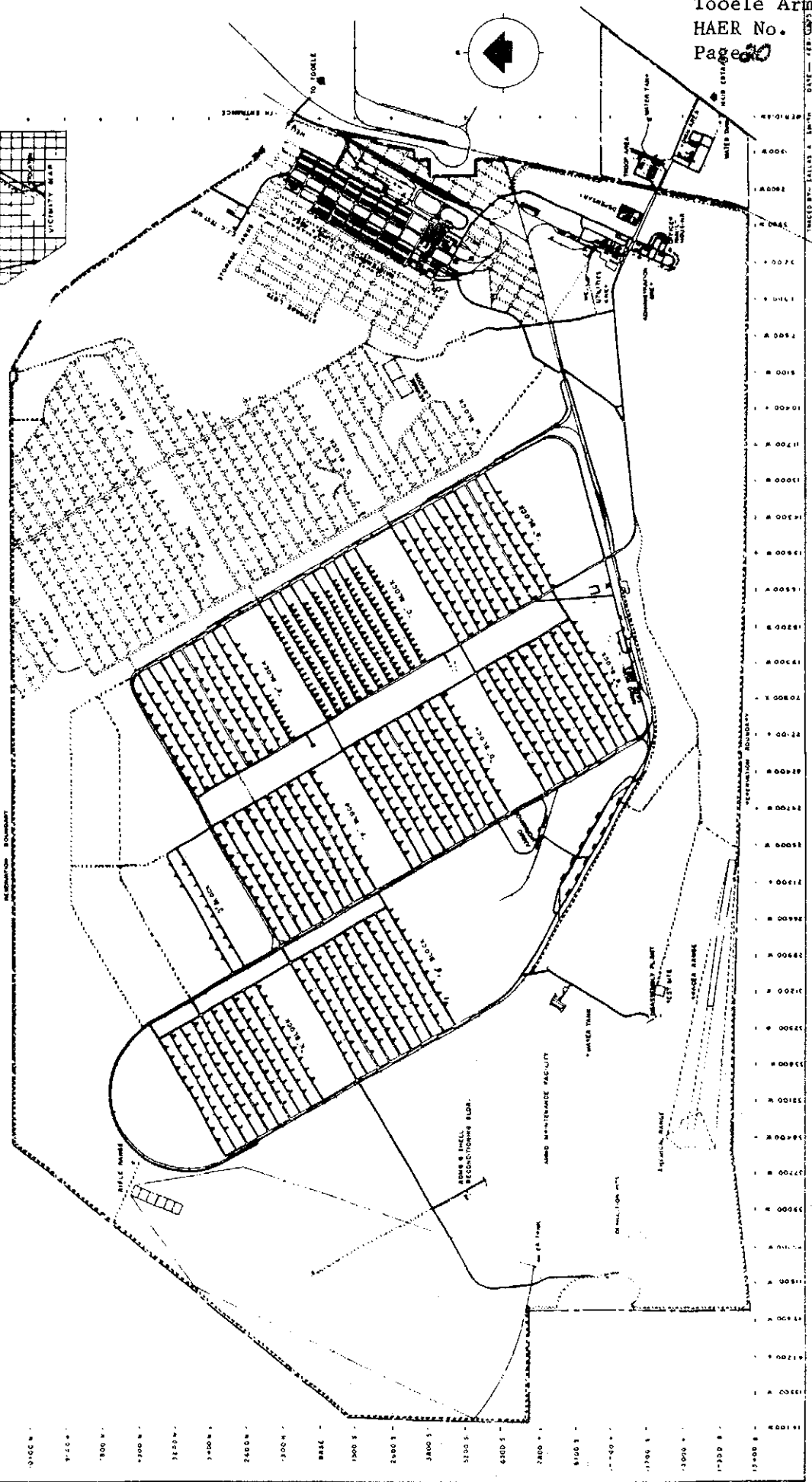


Illustration 2: Tooele Army Depot Map. (Source: Facilities Engineer, Tooele Army Depot)

area (Buildings 1251 and 1254) housed the major ammunition demilitarization operations but were supported by numerous small facilities that provided paint shops, box shops, and minor repair shops. The above-ground magazine consisted of 12 hollow block buildings (Buildings 1201-1212). All of these buildings remain, and are still used for similar functions.¹⁰ (Illustrations 3-5)

The maintenance and storage area consisted of 26 warehouses, all of which are 180' by 500' wood frame structures with concrete loading docks and adjacent railroad spurs. The warehouses (Buildings 620-621 through 670-671 and 637-639 through 697-699) were built during 1942 and 1943. Five smaller warehouses, utility buildings, and other maintenance facilities were also built in this area. A one-million dollar tank repair shop (Building 619) was completed in 1943 under a separate contract to establish a maintenance facility capable of rebuilding vehicles and artillery pieces.¹¹ (Illustration 6)

The administrative area, consisting of a headquarters section with officers' housing, a 1,080 unit Lanham Housing Project, a barracks area for enlisted personnel, a hospital and a prisoner of war camp, was also built during this period.

The headquarter's section includes the main headquarters building (Building 1), a fire station (Building 8), five single family houses (Buildings 25-29), and a visiting officers' quarters (Building 35). These buildings were constructed in 1942 and are still in use today.¹² (Illustrations 7-8)

The Lanham Housing Project, known as TOD (Tooele Ordinance Depot) Park, originally included permanent community facilities as well as housing. The project, constructed by the Federal Public Housing Administration, provided



Illustration 3: Typical Igloo Storage Magazine (Building C-101), located in the Ammunition Storage Area of Tooele Army Depot. (Source: Field Inventory Photograph, 1983, David G. Buchanan, Building Technology Inc.)

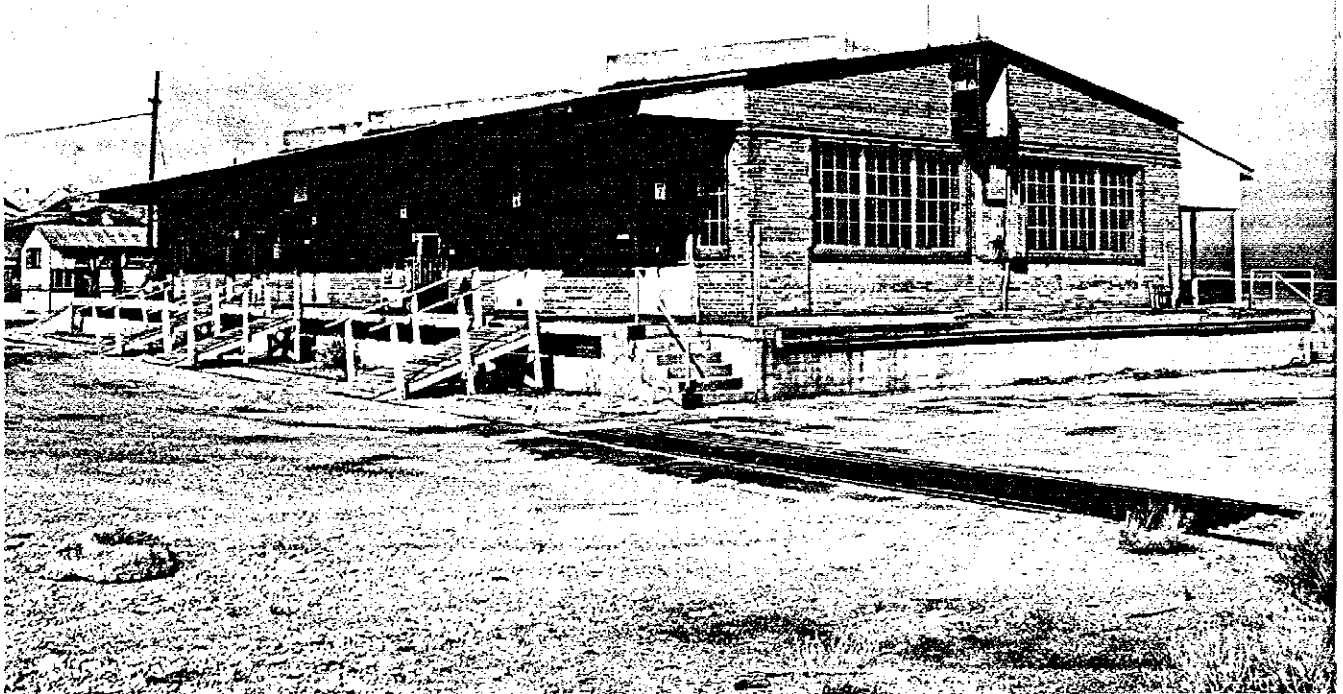


Illustration 4: Ammunition Renovation Shop (Building 1254), located in the Ammunition Renovation Area of Tooele Army Depot. (Source: Field Inventory Photograph, 1983, David G. Buchanan, Building Technology Inc.)

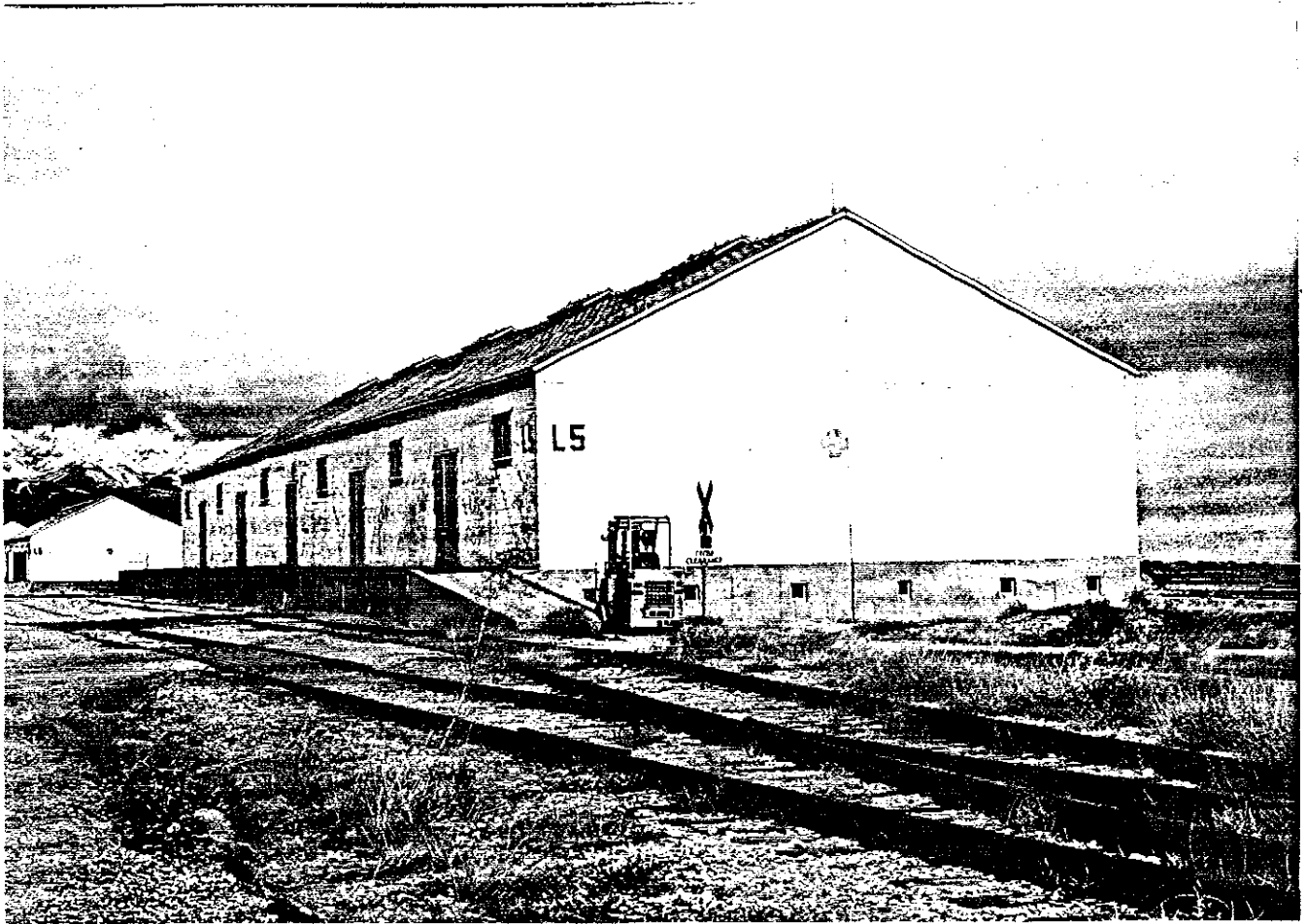


Illustration 5: Above-Ground Storage Magazine (Building 1205), located in the Ammunition Storage Area of Tooele Army Depot. (Source: Field Inventory Photograph, 1983, David G. Buchanan, Building Technology Inc.)



Illustration 6: Typical Warehouse (Building 660), located in the Maintenance and Storage Area of Tooele Army Depot. (Source: Field Inventory Photograph, 1983, David G. Buchanan, Building Technology Inc.)



Illustration 7: Main Headquarters Building (Building 1), located in the Administrative Area of Tooele Army Depot. (Source: Field Inventory Photograph, 1983, David G. Buchanan, Building Technology Inc.)



Illustration 8: Typical Single Family House (Building 25), located in the Administrative Area of Tooele Army Depot. (Source: Field Inventory Photograph, 1983, David G. Buchanan, Building Technology Inc.)

quarters for the expanded World War II workforce and included such amenities as a shopping center, a post office, and an elementary school. Six community buildings (Buildings 1001-1005) remain, but the housing units were declared excess following World War II and over a number of years were either sold or demolished.¹³

The barracks (Buildings 100-155) and the hospital (Buildings 401-404 and 410-420) also remain, though many of the buildings stand vacant. The buildings in both areas are standard 800 series World War II cantonment structures; the barracks are wood construction and the hospital buildings are concrete block. The prisoner of war camp was located on the north side of the maintenance and storage area of the depot. It consisted of 29 barracks which were sold as war surplus following World War II. Since 1949, the prisoner of war camp site has been used by the salvage department.¹⁴

An extensive rail line system within the installation was also established during this period to connect all the mission areas of Tooele Ordnance Depot. The rail system is still actively used. The depot presently has storage space for 200 freight cars in the classification yards and the government trackage connects with both the Union Pacific and Western Pacific railroads at Warner, Utah.

Following World War II, as activities at the Depot concentrated on salvage or surplus disposal of war materiel, there was an acute need for storage facilities. In November 1947, a new storage area known as the Tank Farm was built near the site of the World War II prisoner of war camp. The area consisted of 115

modified liquid storage tanks with 55 foot diameters (Buildings 804-913 and 919-924) and ten tanks with 30 foot diameters (Buildings 914-918 and 925-929). These tanks were filled with dry nitrogen gas to provide a controlled humidity storage environment. All of the structures remain and are still used as storage facilities.¹⁵ (Illustration 9)

The Tank Repair Shop (Building 619) was completely renovated following the war. It was re-equipped with machines and conveyor lines capable of reconditioning vehicle subassemblies, including transmissions and the engines of tanks and other mobile artillery pieces.¹⁶

No other major construction projects were completed immediately following World War II, but with American involvement in the Korean War, activities at the depot increased. Although most of the facilities at Tooele were originally designed for temporary service, the Korean War forced the renovation of many of the older World War II structures. Warehouses and maintenance buildings were improved by the addition of asbestos shingles and siding. By the end of 1952, more than \$572,000 had been expended for improving these facilities.¹⁷

Following the Korean War, an additional 103 igloo-type storage magazines were built in 1953 to expand the storage capacity of Tooele. These magazines were sited among the existing ammunition storage grounds and still remain. An ammunition disassembly area (Buildings 1300-1306) was also completed as part of this construction effort, and it too is still standing.¹⁸

Other facilities constructed since the Korean War include a new ammunition maintenance facility (Buildings 1366-1375), completed in 1970, and a demilling

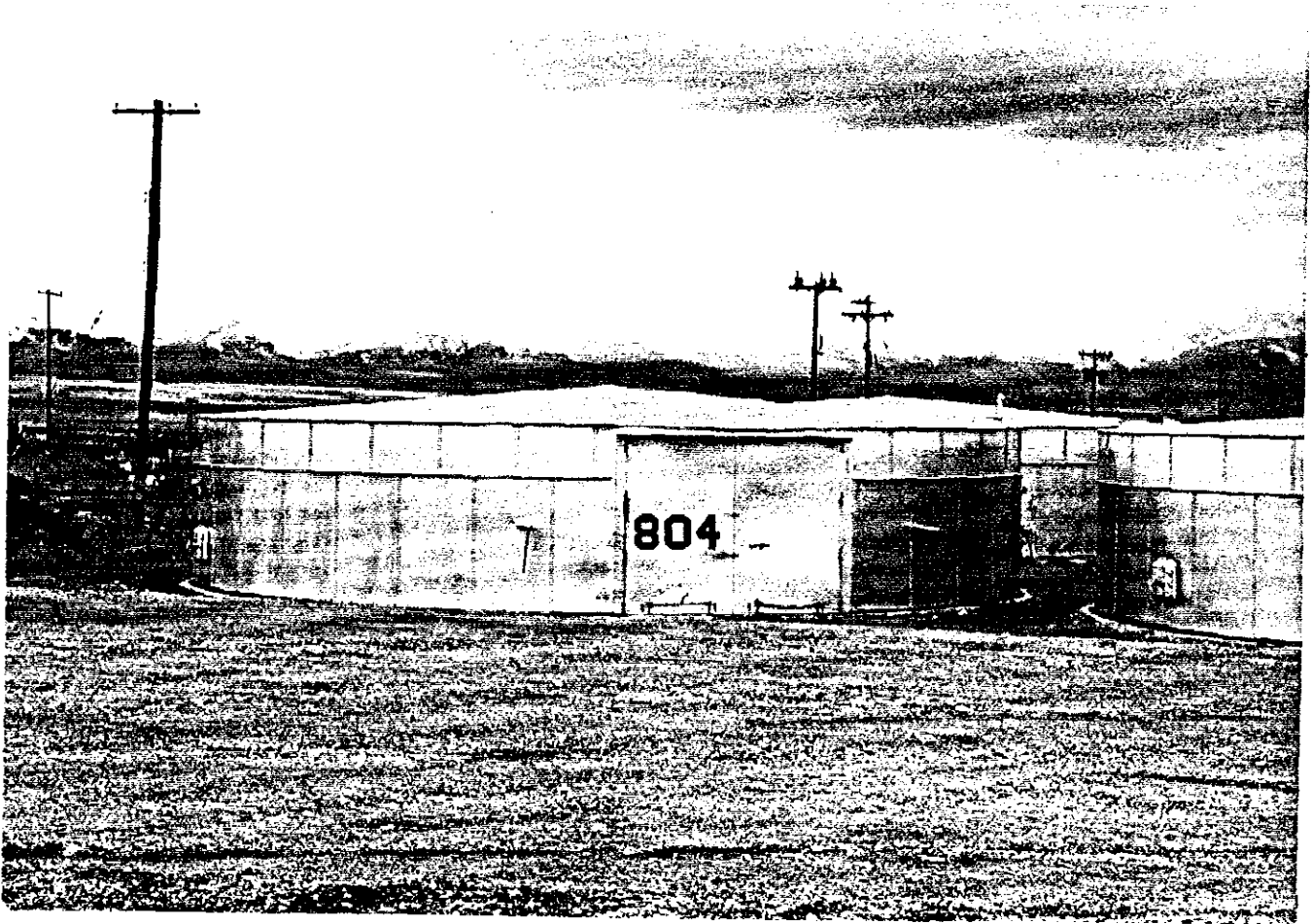


Illustration 9: Typical Controlled Humidity Storehouse (Building 804), located in the Maintenance and Storage Area of Tooele Army Depot. (Source: Field Inventory Photograph, 1983, David G. Buchanan, Building Technology Inc.)

plant (Buildings 1377-1380), finished in 1976. Both facilities, which are located in an isolated portion in the southwest corner of the depot site, constitute the most up-to-date facilities at the Tooele Army Depot.¹⁹

TOOELE SOUTH AREA

BACKGROUND

The Army constructed the Deseret Chemical Depot in July 1942, in Rush Valley about 20 miles south of the city of Tooele. Operations were so secret that not until its dedication in July 1943 did the people of Utah learn that the Deseret Chemical Depot was designed for storage and shipment of all types of chemical warfare material, especially poisonous gases, chemicals, and chemically-filled ammunition.²⁰

An arid climate, isolation from centers of population, and excellent railroad access were the main reasons for choosing this area for the unique mission of chemical warfare storage. Because the Deseret Chemical Depot was located so far from other towns, the Army was forced to construct a completely new town with housing and all community facilities. During World War II, between 700 and 1,000 guards, laborers, machinists and administrative personnel worked at the depot. Workers either lived at the depot or commuted from other towns.²¹

Following World War II, the depot was reduced to a military chemicals storage facility with only a staff for maintenance and security. In July 1950, it was reactivated for the Korean War, and in May 1955, the Army assigned the Deseret

Chemical Depot to the Tooele Ordnance Depot (since 1962 the Tooele Army Depot) under the name Deseret Depot Activity (since 1962 known as the South Area).

In September 1979, the Chemical Agent Munitions Disposal System (CAMDS) was installed at South Area. This plant is the first and only one of its kind in the country and is used as a pilot facility to develop, proof test, and document chemical demilitarization technology.²²

Presently, South Area has the most important chemical storage mission in the United States. Stored here are weapons and containers of GB nerve agent, VX nerve agent, and mustard agent, among others. There are a total of 246 buildings at this installation.

CONSTRUCTION AND SITE DEVELOPMENT

Construction of the Deseret Chemical Depot began in 1942 with the completion of 141 igloo storage buildings. These were standard reinforced concrete underground magazines which provided over 300,000 square feet of storage space for all types of chemical warfare material. All are in good condition and remain in use today. (Illustration 10)

The administrative and maintenance section was also built in 1942, and included the main administrative building (no longer standing), a communications building (Building 1), a fire station (Building 10), a garage (Building 108), a locomotive house (Building 135), eight warehouses (Buildings 120-123 and 220-223) with access to railroad spurs, and other small shop facilities. Most of these buildings were wood frame structures with wood sheathing and asbestos shingle siding.

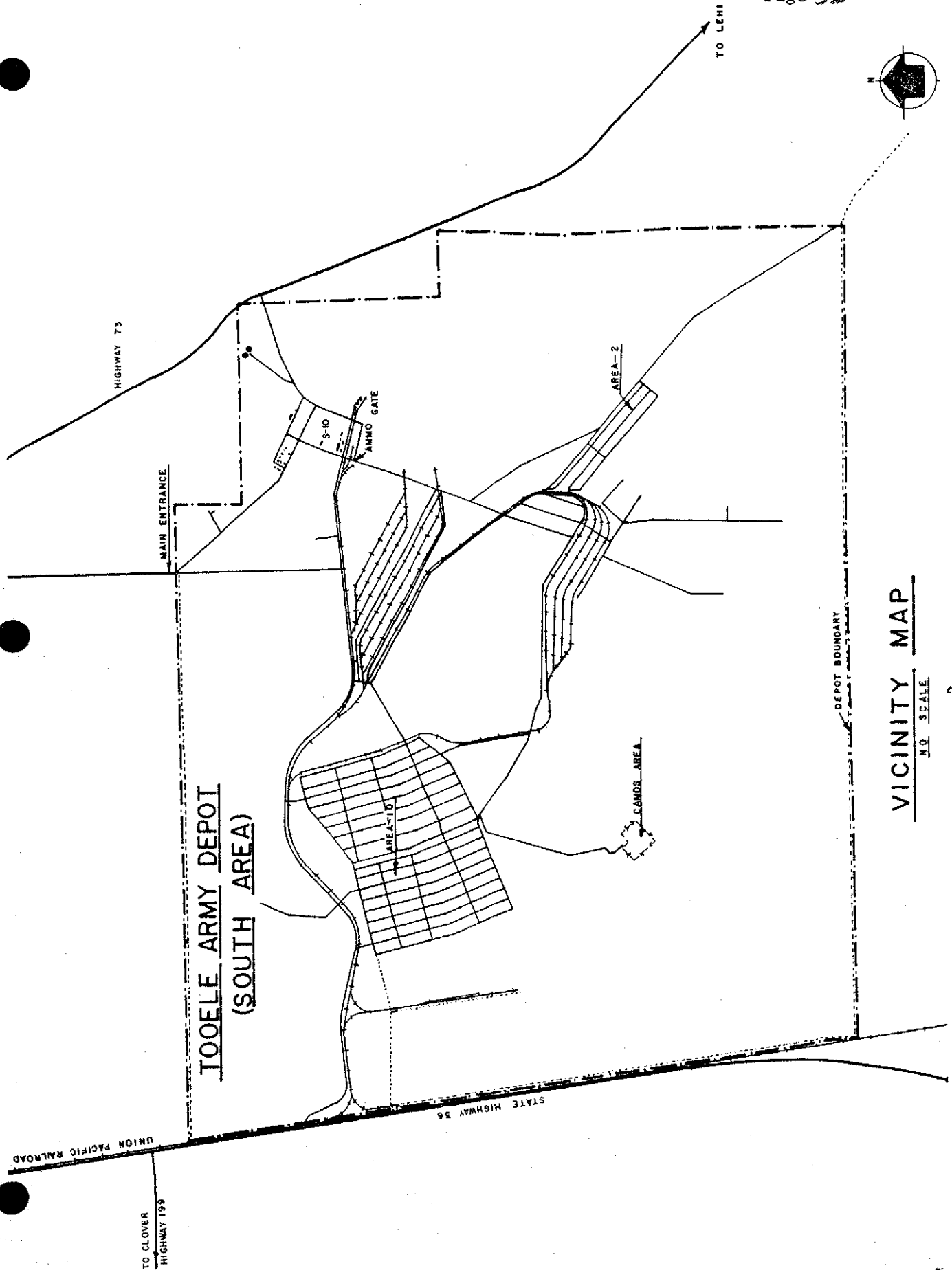


Illustration 10: Tooele South Area Map. (Source: Facilities Engineer, Tooele Army Depot)

In addition to administrative and maintenance facilities, the Army constructed housing for both civilian and military personnel. A cantonment area was constructed in 1942 adjacent to the administrative center that included barracks for enlisted men, dormitories for civilian workers, and three-, four- and five-room houses. Community facilities included a theater, library, commissary, post office and chapel. None of the buildings in this cantonment area remain, although roadways and concrete foundations still exist.²³

As with Tooele Army Depot, construction at South Post proved difficult due to wind storms and shifting sands. Wherever the ground was broken, construction crews encountered severe dust storm problems that hampered the activities of the construction project. Because of these problems, the cost of the original installation escalated to over \$15 million.²⁴

When the depot was reactivated for the Korean War, a group of concrete block above ground storage buildings (Buildings 4001-4110) and a chemical ammunition demilitarization facility (Buildings 553-554) were built in 1953 to accommodate the increased demands for storage space created by the war. In addition, a large number of temporary metal storage sheds and open platform storage pads provided additional storage capacity. These structures were subsequently sold by the Army.²⁵

In the middle 1950's, thirteen two-family houses were completed to replace the outdated World War II facilities. This housing, located on Duncan Circle, just north of the administrative section, was owned by the Army until recently when it was sold. The houses are now rented by a private owner to military and civilian personnel employed at the installation.²⁶



Illustration 11: The Railroad Equipment Maintenance Shop (Building 1701), part of the Rail Shops Division of Tooele Army Depot, located at Hill Air Force Base in Ogden, Utah. (Source: Field Inventory Photograph, 1983, David G. Buchanan, Building Technology Incorporated).

Recent construction at Tooele South Post has been located at the Chemical Agent Munitions Disposal System (CAMDS) in the south-central portion of the installation. Four administrative buildings (Buildings 3308-3311) were completed in 1978, but the major CAMDS buildings were not completed until 1979. The complex consists of large one-story concrete block buildings used to process and demilitarize chemical munitions.²⁷

RAIL SHOPS DIVISION

The Rail Shops Division is located at Hill Air Force Base in Ogden, Utah. Here, Tooele Army Depot operates the only facility within the Department of Defense for diesel locomotive, rail car, and large generating plant maintenance.

The facility was built in 1942 during wartime expansion at Ogden Arsenal and consists primarily of the Railroad Equipment Maintenance Shop (Building 1701), a large, single story brick structure with eight rail bays. Most of the rail bays have work pits under the rails long enough to accommodate two locomotives each. The building also contains a large machine shop and an administrative area. Other buildings at the Rail Shops Division include an office (1942), three warehouses (1957), and several small materials storage buildings (1942-1962).²⁸

(Illustration 11)

NOTES

1. Leonard J. Arrington and Thomas G. Alexander, "They Kept 'Em Rolling: The Tooele Army Depot, 1942-1962," Utah Historical Quarterly, Vol 31, No. 1, Winter 1963, p. 4; for a history of the Ogden Arsenal see: Thomas G. Alexander, "Ogden's Arsenal of Democracy, 1920-1955," Utah Historical Quarterly, Vol. 33, No. 3, Summer 1965, pp. 237-247.
2. Arrington, "They Kept 'Em Rolling," pp. 12-13.

3. Desert Star, February 4, 1982, p. 4.
4. Arrington, "They Kept 'Em Rolling," p. 12.
5. Ibid, pp. 18-19.
6. Desert Star, February 4, 1982, p. 4.
7. Tooele Army Depot. DARCOM Installation and Activity Brochure. U.S. Army Depot System Command, December 1981.
8. Arrington, "They Kept 'Em Rolling," p. 4-5.
9. Ibid, p. 6.
10. Ibid, p. 6; Tooele Army Depot, Real Property Inventory, Tooele Army Depot, March 1982.
11. Ibid.
12. Ibid.
13. Desert Star, February 4, 1982, p. 4; Arrington, "They Kept 'Em Rolling," pp. 17-18.
14. Arrington, "They Kept 'Em Rolling," p. 15-16; Tooele Army Depot, Real Property Inventory, Tooele Army Depot.
15. Arrington, "They Kept 'Em Rolling," p. 15.
16. Ibid, p. 16.
17. Ibid, p. 19.
18. Tooele Army Depot, Real Property Inventory, Tooele Army Depot.
19. Ibid; Tooele Army Depot, Analysis of Existing Facilities/Environmental Assessment Report (Tooele Army Depot Facilities Division, Engineering Branch, May 1982), pp. 85-86.
20. Leonard J. Arrington and Thomas G. Alexander, "Sentinals on the Desert: The Dugway Proving Ground (1942-1963) and Deseret Chemical Depot (1942-1955)," Utah Historical Quarterly, Vol. 32, No. 1, Winter 1964, pp. 37-38.
21. Ibid.
22. Tooele Army Depot, DARCOM Installation and Activity Brochure.

23. Tooele Army Depot, Real Property Inventory, Tooele South, March 1968.
24. Arrington, "They Kept 'Em Rolling," p. 37.
25. Tooele Army Depot South Area. Analysis of Existing Facilities/Environmental Assessment Report, p. 26.
26. Ibid.
27. Ibid; Tooele Army Depot, Real Property Inventory, Tooele South.
28. Arrington, "They Kept 'Em Rolling," p. 243.

Chapter 3

PRESERVATION RECOMMENDATIONS

BACKGROUND

Army Regulation 420-40 requires that an historic preservation plan be developed as an integral part of each installation's planning and long range maintenance and development scheduling.¹ The purpose of such a program is to:

- Preserve historic properties to reflect the Army's role in history and its continuing concern for the protection of the nation's heritage.
- Implement historic preservation projects as an integral part of the installation's maintenance and construction programs.
- Find adaptive uses for historic properties in order to maintain them as actively used facilities on the installation.
- Eliminate damage or destruction due to improper maintenance, repair, or use that may alter or destroy the significant elements of any property.
- Enhance the most historically significant areas of the installation through appropriate landscaping and conservation.

To meet these overall preservation objectives, the general preservation recommendations set forth below have been developed:

Category 1 Historic Properties

All Category I historic properties not currently listed on or nominated to the National Register of Historic Places are assumed to be eligible for nomination regardless of age. The following general preservation recommendations apply to these properties:

- a) Each Category I historic property should be treated as if it were on the National Register, whether listed or not. Properties not currently listed should be nominated. Category I historic properties should not be altered or demolished. All work on such properties shall be performed in accordance with Sections 106 and 110(f) of the National Historic Preservation Act as amended in 1980, and the regulations of the Advisory Council for Historic Preservation (ACHP) as outlined in the "Protection of Historic and Cultural Properties" (36 CFR 800).
- b) An individual preservation plan should be developed and put into effect for each Category I historic property. This plan should delineate the appropriate restoration or preservation program to be carried out for the property. It should include a maintenance and repair schedule and estimated initial and annual costs. The preservation plan should be approved by the State Historic Preservation Officer and the Advisory Council in accordance with the above referenced ACHP regulation. Until the historic preservation plan is put into effect, Category I historic properties should be maintained in accordance with the recommended approaches of the Secretary of the Interior's Standards for Rehabilitation and Revised Guidelines for Rehabilitating Historic Buildings² and in consultation with the State Historic Preservation Officer.

- c) Each Category I historic property should be documented in accordance with Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) Documentation Level II, and the documentation submitted for inclusion in the HABS/HAER collections in the Library of Congress.³ When no adequate architectural drawings exist for a Category I historic property, it should be documented in accordance with Documentation Level I of these standards. In cases where standard measured drawings are unable to record significant features of a property or technological process, interpretive drawings also should be prepared.

Category II Historic Properties

All Category II historic properties not currently listed on or nominated to the National Register of Historic Places are assumed to be eligible for nomination regardless of age. The following general preservation recommendations apply to these properties:

- a) Each Category II historic property should be treated as if it were on the National Register, whether listed or not. Properties not currently listed should be nominated. Category II historic properties should not be altered or demolished. All work on such properties shall be performed in accordance with Sections 106 and 110(f) of the National Historic Preservation Act as amended in 1980, and the regulations of the Advisory Council for Historic Preservation (ACHP) as outlined in the "Protection of Historic and Cultural Properties" (36 CFR 800).

- b) An individual preservation plan should be developed and put into effect for each Category II historic property. This plan should delineate the appropriate preservation or rehabilitation program to be carried out for the property or for those parts of the property which contribute to its historical, architectural, or technological importance. It should include a maintenance and repair schedule and estimated initial and annual costs. The preservation plan should be approved by the State Historic Preservation Officer and the Advisory Council in accordance with the above referenced ACHP regulations. Until the historic preservation plan is put into effect, Category II historic properties should be maintained in accordance with the recommended approaches in the Secretary of the Interior's Standards for Rehabilitation and Revised Guidelines for Rehabilitating Historic Buildings⁴ and in consultation with the State Historic Preservation Officer.
- c) Each Category II historic property should be documented in accordance with Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) Documentation Level II, and the documentation submitted for inclusion in the HABS/HAER collections in the Library of Congress.⁵

Category III Historic Properties

The following preservation recommendations apply to Category III historic properties:

- a) Category III historic properties listed on or eligible for nomination to the National Register as part of a district or thematic group should be treated in accordance with Sections 106 and 110(f) of the National Historic Preservation Act as amended in 1980, and the regulations of the Advisory Council for Historic Preservation as outlined in the "Protection of Historic and Cultural Properties" (36 CFR 800). Such properties should not be demolished and their facades, or those parts of the property that contribute to the historical landscape, should be protected from major modifications. Preservation plans should be developed for groupings of Category III historic properties within a district or thematic group. The scope of these plans should be limited to those parts of each property that contribute to the district or group's importance. Until such plans are put into effect, these properties should be maintained in accordance with the recommended approaches in the Secretary of the Interior's Standards for Rehabilitation and Revised Guidelines for Rehabilitating Historic Buildings⁶ and in consultation with the State Historic Preservation Officer.
- b) Category III historic properties not listed on or eligible for nomination to the National Register as part of a district or thematic group should receive routine maintenance. Such properties should not be demolished, and their facades, or those parts of the property that contribute to the historical landscape, should be protected from modification. If the properties are unoccupied, they should, as a minimum, be maintained in stable condition and prevented from deteriorating.

HABS/HAER Documentation Level IV has been completed for all Category III historic properties, and no additional documentation is required as long as they are not endangered. Category III historic properties that are endangered for operational or other reasons should be documented in accordance with HABS/HAER Documentation Level III, and submitted for inclusion in the HABS/HAER collections in the Library of Congress.⁷ Similar structures need only be documented once.

CATEGORY I HISTORIC PROPERTIES

There are no Category I historic properties at Tooele Army Depot and its subinstallations, Tooele South Area and the Rail Shops Division.

CATEGORY II HISTORIC PROPERTIES

There are no Category II historic properties at Tooele Army Depot and its subinstallations, Tooele South Area and the Rail Shops Division.

CATEGORY III HISTORIC PROPERTIES

There are no Category III historic properties at Tooele Army Depot and its subinstallations, Tooele South Area and the Rail Shops Division.

NOTES

1. Army Regulation 420-40, Historic Preservation (Headquarters, U.S. Army: Washington, D.C., 15 April 1984).
2. National Park Service, Secretary of the Interior's Standards for Rehabilitation and Revised Guidelines for Rehabilitating Historic Buildings, 1983 (Washington, D.C.: Preservation Assistance Division, National Park Service, 1983).

3. National Park Service, "Archeology and Historic Preservation; Secretary of the Interior's Standards and Guidelines," Federal Register, Part IV, 28 September 1983, pp. 44730-44734.
4. National Park Service, Secretary of the Interior's Standards.
5. National Park Service, "Archeology and Historic Preservation."
6. National Park Service, Secretary of the Interior's Standards.
7. National Park Service, "Archeology and Historic Preservation."

BIBLIOGRAPHY

- Arrington, Leonard J. and Alexander, Thomas G. "They Kept 'Em Rolling: The Tooele Army Depot, 1942-1962." Utah Historical Quarterly, Vol. 31, No. 1, Winter 1963. Only historical essay written about activities at Tooele Army Depot prior to 1962.
- Arrington, Leonard J. and Alexander, Thomas G. "Sentinals on the Desert: The Dugway Proving Ground (1942-1963) and Deseret Chemical Depot (1942-1955)." Utah Historical Quarterly, Vol. 32, No. 1, Winter 1964. DDeseret is now called South Area, a subinstallation of Tooele Army Depot.
- Desert Star. "1942-1963: 40 Years of 'Mission First People Always'," February 1982. Installation newspaper.
- Thompson, H.C. and Mayo, Lida. The Ordnance Department: Procurement and Supply. Washington, D.C.: U.S. Army, 1960. One of a three-part official series published by the U.S. Army Chief of Military History.
- Tooele Army Depot. Analysis of Existing Facilities/Environmental Assessment Report. Tooele Army Depot Facilities Division, Engineering Branch, May 1982. Environmental Impact Report.
- Tooele Army Depot. DARCOM Installation and Activity Brochure. U.S. Army Depot System Command, December 1981. DARCOM brochure.
- Tooele Army Depot. Real Property Inventory, Tooele Army Depot. March 1982.
- Tooele Army Depot. Real Property Inventory, Tooele South. March 1982.



APPENDIX A
DEPARTMENT OF THE ARMY

TOOELE ARMY DEPOT
TOOELE, UTAH 84074

Tooele Army Depot
HAER No. UT-34
Page 47

REPLY TO
ATTENTION OF:

5 DEC 1983

Facilities Engineering Division


Mr. William A. Brenner
Building Technology Inc.
1109 Spring Street
Silver Spring, MD 20910

Dear Mr. Brenner:

As requested in your telephone conversation with Mr. Larry Fisher, Environmental Coordinator, on November 14, 1983, the following information is provided.

The CAMDS facility, located in the South Area, was in operation during your visit; thereby not allowing your entry. Also, the CAMDS facility was constructed in the 1975 and 1976 time frame and would not meet the requirements for a historic structure.

Sincerely,


Merlin E. Peterson
Director for Administration and Services